

October 1, 2007

Dr. Jeff Haferman Vice-Mayor City of Monterey City Hall Monterey, CA 93940

Dear Dr. Haferman;

Thank you for your letter of September 18 in regards to the CDFA treatment of light brown apple moth in the Monterey/Seaside area of California on September 9 through September 12. I would like to clarify the CDFA application protocols.

The application protocol includes buffer zones downwind from the targeted spray zone to account for drift. The width of this buffer zone depends upon wind-speed. The buffer zone is 100 meters at zero wind, 200 meters at 4 mph wind, and 300 meters at 8 mph wind.

As part of the application protocol, the CDFA monitors wind speeds at or near the actual flight lines because the wind speed on site can vary from that at the airport. The wind speed averaged 3 miles per hour or less each night during the entire application period.

The CDFA and the USDA had the aircraft and nozzles calibrated before the application period. The nozzles produced droplets of 500 micrometers in diameter and greater, with a targeted mean droplet diameter of 1,000 micrometers. For the calibration, the aircraft flew at 75 feet above ground level. The nozzle used is a stainless steel 0.135 inch diameter tube, without body screens, orientated straight back, with boom pressure at 23 pounds per square inch. The nozzle type, orientation, and pressure are designed to eliminate the production of fine droplets.

Based on buffer zones in your letter (Table 2), the required buffer zone for a 1,000 micrometer droplet from an altitude to 500 feet is 17 meters per mile per hour of wind. Given that the wind averaged 3 miles per hour or less, this would give a needed buffer zone of 51 meters. For the 500 micrometer droplet discussed in your letter, the buffer zone would be 34 meter per mile per hour of wind, or 102 meters in a three mile per hour wind.

The CDFA did empirically validate the adequacy of its protocols. The CDFA has a long-standing policy of monitoring applications to confirm treatment efficacy and environmental compliance. During the application period, the CDFA established drift monitoring stations at various distances from the flight lines. Monitoring stations were located at strategic points with either the greatest likelihood of drift or to protect valuable natural resources. From the monitoring stations evaluated to date, the CDFA has found evidence of only a few microcapsules downwind from the targeted spray zone.



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The USDA has also clarified their review of the toxicity of the pheromones to aquatic invertebrates. In the latest Environmental Assessment, "Treatment Program for Light Brown Apple Moth in Santa Cruz and Northern Monterey Counties, California", the USDA reviewers state "Toxicity to aquatic organisms is unknown for these two pheromones specifically; however, data for other pheromones suggest that fish LC50 values greater than 100 parts per million (ppm), and aquatic invertebrate toxicity values range in the upper parts per billion (ppb) to low ppm range (Weatherston and Stewart, 2002; PMRA, 1994; Inscoe and Ridgway, 1992). Toxicity values for aquatic invertebrates may be misleading. Since the pheromone is hydrophobic, large amounts of pheromone must be added to the test chamber in order to obtain detectable amounts of pheromone in the water or else a solvent must be used. In the proposed application no solvent will be used and application rates are low at 15 to 20 grams a.i./acre. In addition, the pheromone is considered insoluble and it would not be possible for a body of water to achieve levels of dissolved pheromone that could approach toxic levels for aquatic invertebrates."

Regarding your request for copies of all "Spray Drift Management Records" related to the aerial spraying of "Checkmate" on September 9, 10, 11, 12, 13, 2007 over the Monterey Peninsula by CDFA, we are currently reviewing and processing these records. We will make every effort to have all available records sent to you. However, in order to provide a complete record, we will need an extension until October 15.

I hope this addresses your concerns. Please feel free to contact me if you would like more information, or would like to discuss this further.

Sincerely,

/S/

John Connell
Director
Plant Health and Pest Prevention Services